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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

HSU, ALPUS

ART UNIT

PAPER NUMBER

2665

DATE MAILED: 12/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/848,923

Applicant(s)

HAHN ET AL.

Examiner

Alpus H. Hsu

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-34 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-34 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

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1. Claims 8, 18 and 28 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 8, line 8, claim 18, line 7, claim 28, lines 10-11, each term of "the comparison" has no clear antecedent since there are two comparisons being recited previously.

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 1-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over KRAMER et al. in U.S. Patent No. 6,658,027 in view of Cason in U.S. Patent No. 6,249,757.

Referring to claims 1 and 11, KRAMER et al. discloses a method and a set of logic encoded in media and executed by a computer for managing time-sensitive packetized data streams at a receiver, comprising: receiving a time-sensitive packet of a data stream (col. 3, lines

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53-59); analyzing the packet to see whether it satisfies a criteria (col. 4, lines 16-17), and determining whether to drop the packet based on the analysis of the packet (col. 4, lines 17-18).

KRAMER et al. differs from the claims, in that, it fails to disclose the determination of dropping the packet being based upon an analysis of energy level of payload signal within the packet, which is well known in the art and commonly applied in communications field for voice activity detection.

Cason, for example, from the similar field of endeavor, teaches the voice activity detection by analyzing energy level of the data frame (abstract, col. 3, lines 16-22), which can be easily adopted by one of ordinary skill in the art into the method and logic of KRAMER et al. to provide data flow control based on the energy level of the payload signal within the packet to improve the audio/voice signal quality.

Referring to claims 2 and 12, the combination of KRAMER et al. in view of CASON discloses the further steps of: storing the packet in a buffer (col. 5, lines 38-40 in KRAMER); and determining whether to drop the packet based on the energy level of the payload signal (col. 3, lines 16-22 in CASON) and a fullness of the buffer (col. 4, line 64 to col. 5, line 15 in KRAMER).

Referring to claims 3 and 13, the combination of KRAMER et al. in view of CASON discloses the further step of: determining whether to insert a filler packet (col. 9, lines 29-45 in KRAMER) based on the energy level of the payload signal (col. 3, lines 16-22 in CASON) and a fullness of the buffer (col. 4, line 64 to col. 5, line 15 in KRAMER).

Referring to claims 4 and 14, KRAMER et al. discloses the time-sensitive packet comprises a real-time packet (col. 10, lines 15-16).

Referring to claims 5 and 15, KRAMER et al. discloses the payload signal is a voice signal (col. 3, lines 35-51).

Referring to claims 6-8, 16-18, KRAMER et al. differs from the claims, in that, it fails to disclose the analysis of energy level of the payload signal of the packet by: determining a short term average energy of the payload signal; determining a noise floor estimate; comparing the short term average energy and the noise floor estimate; comparing the energy level of the payload signal to an energy level of a payload signal of a previous packet, and either dropping or playing the packet based on the comparisons as claimed, which is also well known in the art and commonly applied in communications field for noise reduction and interference suppression.

Cason, from the similar field of endeavor, teaches the voice activity detection by analyzing energy level of the data frame utilizing the comparison of the short term average energy and the noise floor estimate (col. 5, lines 3-21, col. 6, lines 1-17) and the comparison of the energy level of the payload signal to an energy level of a payload signal of a previous packet (col. 3, line 62 to col. 4, line 7), which can be easily adopted by one of ordinary skill in the art into the method and logic of KRAMER et al. to provide noise reduction and interference suppression based on the energy level of the payload signal within the packet to further improve the audio/voice signal quality.

Referring to claims 9 and 19, KRAMER et al. discloses the step of determining whether to insert the filler packet comprises: determining if an underrun condition exists in the buffer; and determining if a previous packet can be repeated or if a new packet needs to be inserted (col. 6, lines 19-32).

Referring to claims 10 and 20, KRAMER et al. discloses the step of determining whether to drop the packet comprises determining whether an overflow condition exists in the buffer (col. 5, lines 36-61).

Referring to claim 21, KRAMER et al. discloses a system for managing time-sensitive packetized data streams at a receiver, comprising: means for receiving a packet of a data stream (110); means for analyzing the packet to see whether it satisfies a criteria (260); and means for determining whether to drop the packet based on the analysis of the packet (300).

KRAMER et al. differs from the claim, in that, it fails to disclose the determination of dropping the packet being based upon an analysis of energy level of payload signal within the packet, which is well known in the art and commonly applied in communications field for voice activity detection.

Cason, for example, from the similar field of endeavor, teaches the voice activity detection by analyzing energy level of the data frame (abstract, col. 3, lines 16-22), which can be easily adopted by one of ordinary skill in the art into the method and logic of KRAMER et al. to provide data flow control based on the energy level of the payload signal within the packet to improve the audio/voice signal quality.

Referring to claims 22 and 23, the combination of KRAMER et al. in view of CASON discloses the means for storing the packet in a buffer (240); and means for determining whether to drop the packet based on the energy level of the payload signal and a fullness of the buffer (300).

Referring to claim 24, KRAMER et al. discloses the time-sensitive packet comprises a real-time packet (col. 10, lines 15-16).

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Referring to claim 25, KRAMER et al. discloses the payload signal is a voice signal (col. 3, lines 35-51).

Referring to claims 26-28, KRAMER et al. differs from the claims, in that, it fails to disclose the means for analyzing energy level of the payload signal of the packet comprises: means for determining a short term average energy of the payload signal; means for determining a noise floor estimate; means for comparing the short term average energy and the noise floor estimate; means for comparing the energy level of the payload signal to an energy level of a payload signal of a previous packet, and means for either dropping or playing the packet based on the comparisons as claimed, which is also well known in the art and commonly applied in communications field for noise reduction and interference suppression.

Cason, from the similar field of endeavor, teaches the voice activity detection by analyzing energy level of the data frame utilizing the comparison of the short term average energy and the noise floor estimate (col. 5, lines 3-21, col. 6, lines 1-17) and the comparison of the energy level of the payload signal to an energy level of a payload signal of a previous packet (col. 3, line 62 to col. 4, line 7), which can be easily adopted by one of ordinary skill in the art into the method and logic of KRAMER et al. to provide noise reduction and interference suppression based on the energy level of the payload signal within the packet to further improve the audio/voice signal quality.

Referring to claim 29, KRAMER et al. discloses the means of determining whether to insert the filler packet comprises: means for determining if an underrun condition exists in the buffer; and means for determining if a previous packet can be repeated or if a new packet needs to be inserted (col. 6, lines 19-32).

Referring to claim 30, KRAMER et al. discloses the means of determining whether to drop the packet comprises means for determining whether an overflow condition exists in the buffer (col. 5, lines 36-61).

Referring to claim 31, the combination of KRAMER et al. in view of CASON discloses a method for managing time-sensitive packetized data streams at a receiver, comprising: receiving a plurality of time-sensitive packets of a data stream (col. 3, lines 53-59 in KRAMER); storing the packets in a buffer (col. 5, lines 38-40 in KRAMER); retrieving one packet from the buffer (col. 6, lines 19-22 in KRAMER), determining if an overflow condition exists in the buffer (col. 5, lines 36-41 in KRAMER); determining a short term average energy of a payload signal of the packet; determining a noise floor estimate, comparing the short term average energy and the noise floor estimate (col. 5, lines 3-21, col. 6, lines 1-17 in CASON), and determining whether to drop the packet based on the overflow condition and the comparison of the short term average energy and the noise floor estimate (col. 4, line 64 to col. 5, line 15 in KRAMER).

Referring to claim 32, the combination of KRAMER et al. in view of CASON discloses the further step of: determining whether to insert a filler packet (col. 9, lines 29-45 in KRAMER) based on the energy level of the payload signal (col. 3, lines 16-22 in CASON) and a fullness of the buffer (col. 4, line 64 to col. 5, line 15 in KRAMER).

Referring to claim 33, KRAMER et al. discloses the time-sensitive packet comprises a real-time packet (col. 10, lines 15-16).

Referring to claim 34, KRAMER et al. discloses the step of determining whether to insert the filler packet comprises: determining if an underrun condition exists in the buffer; and

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determining if a previous packet can be repeated or if a new packet needs to be inserted (col. 6, lines 19-32).

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Kondo et al., Shlomot et al., Kline et al., Supplee et al., Marchok et al., Shaffer et al., and Wildfeuer et al. are all cited to show the common feature of data flow control or jitter minimization in speech/voice packet communication system similar to the claimed invention.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alpus H. Hsu whose telephone number is (571)272-3146. The examiner can normally be reached on M-F (5:30-3:00) First Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy D. Vu can be reached on (571)272-3155. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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AHH

A handwritten signature in black ink, appearing to read "Alpus H. Hsu".

Alpus H. Hsu
Primary Examiner
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